

THAT WHICH IS CLAIMED IS

1. A method for preparing a thermoplastic elastomer, said method comprising:

(I) mixing

(A) a rheologically stable polyamide resin having a melting point or glass transition temperature of 25°C to 275°C,

(B) a silicone base comprising

(B') 100 parts by weight of a diorganopolysiloxane gum having a plasticity of at least 30 and having an average of at least 2 alkenyl radicals in its molecule and

(B'') 5 to 200 parts by weight of a reinforcing filler,

the weight ratio of said silicone base to said polyamide resin is from 35:65 to 85:15,

(C) 0.01 to 5 parts by weight of a stabilizer per 100 parts by weight of said polyamide resin plus said silicone base, said stabilizer being selected from hindered phenols; thioesters; hindered amines; 2,2'-(1,4-phenylene)bis(4H-3, 1-benzoxazin-4-one); and 3,5-di-*tert*-butyl-4-hydroxybenzoic acid, hexadecyl ester,

(D) an organohydrido silicon compound which contains an average of at least 2 silicon-bonded hydrogen groups in its molecule and

(E) a hydrosilation catalyst,

components (D) and (E) being present in an amount sufficient to cure said diorganopolysiloxane (B'); and

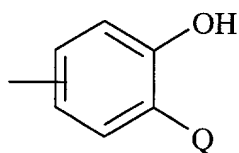
(II) dynamically curing said diorganopolysiloxane (B'),

wherein at least one property of the thermoplastic elastomer selected from tensile strength or elongation is at least 25% greater than the respective property for a corresponding simple blend wherein said diorganopolysiloxane is not cured and said thermoplastic elastomer has an elongation of at least 25%.

2. The method according to claim 1, wherein the weight ratio of said silicone base (B) to said polyamide resin (A) is greater from 35:65 to 75:25.

3. The method according to claim 2, wherein said polyamide is selected nylon 6, nylon 6/6, nylon 6/12 and nylon 12.

4. The method according to claim 2, wherein said diorganopolysiloxane (B') is a gum selected from a copolymer consisting essentially of dimethylsiloxane units and methylvinylsiloxane units and a copolymer consisting essentially of dimethylsiloxane units and methylhexenylsiloxane units and said reinforcing filler (B'') is a fumed silica.
5. The method according to claim 4, wherein said organohydrido silicon component (D) is selected from a polymer consisting essentially of methylhydridosiloxane units and a copolymer consisting essentially of dimethylsiloxane units and methylhydridosiloxane units, having 0.5 to 1.7 weight percent hydrogen bonded to silicon and having a viscosity of 2 to 500 mPa-s at 25°C and said catalyst (E) is a neutralized complex of platinumous chloride and divinyltetramethyldisiloxane.
6. The method according to claim 3, wherein the weight ratio of said silicone base (B) to said polyamide resin (A) is 40:60 to 70:30.
7. The method according to claim 1, wherein said stabilizer is a hindered phenol having at least one group of the formula

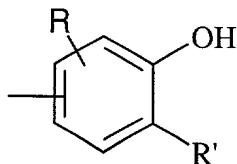


in its molecule, in which Q is a monovalent organic group having 1 to 24 carbon atoms selected from

- (i) hydrocarbon groups,
- (ii) hydrocarbon groups which optionally contain heteroatoms selected from sulfur, nitrogen or oxygen or
- (iii) halogen-substituted versions of (i) or (ii),

wherein the benzene ring of said formula may additionally be substituted with at least one Q group.

8. The method according to claim 7, wherein said stabilizer is a hindered phenol having at least one group of the formula



in its molecule, wherein R is an alkyl group having one to four carbon atoms, R' is a hydrocarbon group having 4 to 8 carbon atoms and wherein the benzene ring of said formula may be optionally further substituted with a hydrocarbon group having 1 to 24 carbon atoms.

9. The method according to claim 7, wherein said hindered phenol is selected from tetrakis(methylene(3,5-di-*tert*-butyl-4-hydroxy-hydrocinnamate))methane, N,N'-hexamethylenebis(3,5-di-*tert*-butyl-4-hydroxyhydrocinnamamide) and 1,1,3-tris(2'-methyl-4'-hydroxy-5'-*t*-butylphenyl)butane, 1,3,5-tris(4-*tert*-butyl-3-hydroxy-2,6-dimethyl benzyl)-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione, and dilauryl-3,3'-thiodipropionate.

10. The method according to claim 1, wherein said polyamide resin is selected from the group consisting of nylon 6, nylon 6/6, nylon 6/12 and nylon 12.

11. The method according to claim 10, wherein the weight ratio of said silicone base (B) to said polyamide resin (A) is 40:60 to 70:30.

12. The method according to claim 4, wherein said polyamide has a melt point greater than 100°C and wherein a pre-mix of components (A) through (D) is first prepared at a temperature below the melting point of the polyamide, said catalyst (E) is subsequently added to said pre-mix at a temperature above the melt point and said diorganopolysiloxane (B') is then dynamically vulcanized.

13. A thermoplastic elastomer prepared by the method of claim 1.

14. A thermoplastic elastomer prepared by the method of claim 2.
15. A thermoplastic elastomer prepared by the method of claim 3.
16. A thermoplastic elastomer prepared by the method of claim 4.
17. A thermoplastic elastomer prepared by the method of claim 5.
18. A thermoplastic elastomer prepared by the method of claim 6.
19. A thermoplastic elastomer prepared by the method of claim 7.
20. A thermoplastic elastomer prepared by the method of claim 8.
21. A thermoplastic elastomer prepared by the method of claim 9.
22. A thermoplastic elastomer prepared by the method of claim 10.
23. A thermoplastic elastomer prepared by the method of claim 11.
24. A thermoplastic elastomer prepared by the method of claim 12.